

# The HERA polarimeters

## status report

- The TPOL
- The LPOL cavity
- The LPOL (talk by HERMES)

# The TPOL

- Operation in 2003/2004: good stability.
- Constant small improvements, mostly invisible to the outside (e.g. offline recovery of malfunctioning oracle server)
- Online measurements are available from three sources:
  - TPOL online server (TPOL monitor, H1/HERMES client, oracle client)
  - TPOL NETMEX server (HERA WWW page, machine archive)
  - ORACLE data base (analysis by HERMES, H1, ZEUS)

## The TPOL (continued) Offline activities: how to get an absolute calibration of the TPOL?

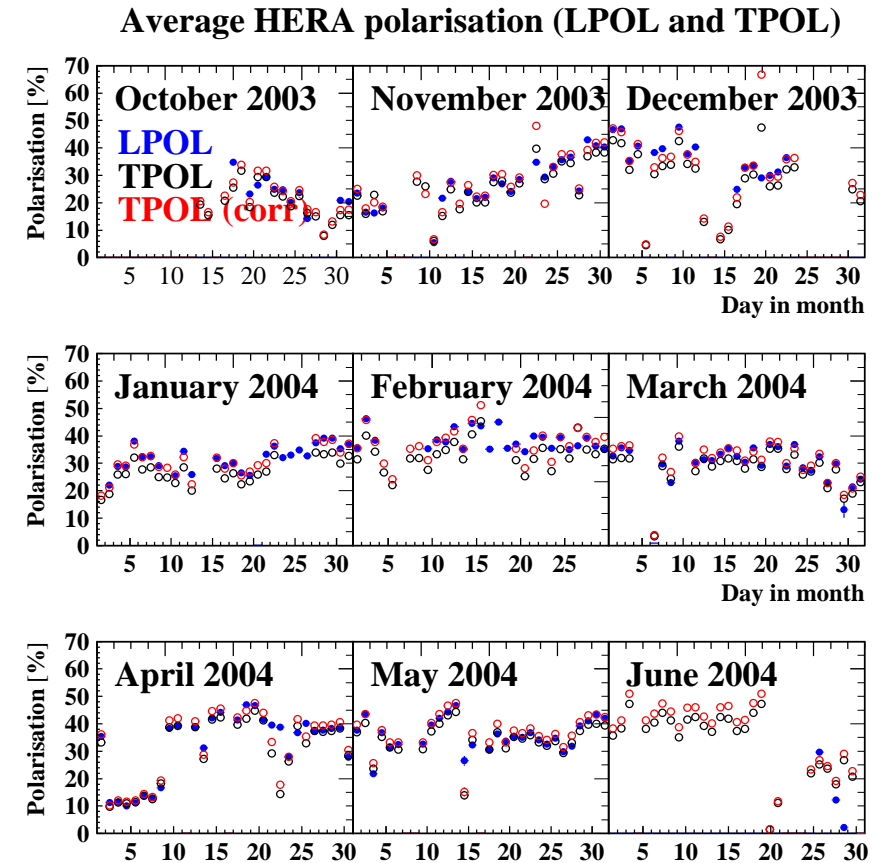
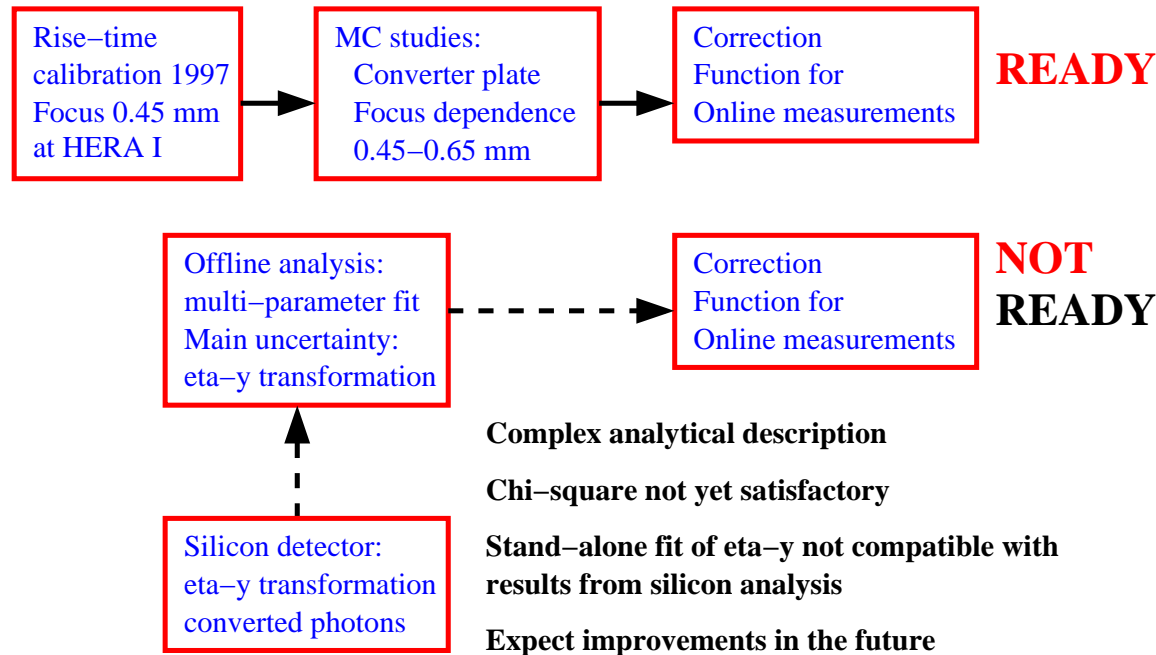
Main source of problem: vertical beam size at TPOl IP has changed vs HERA I and varies from fill to fill.

### Analysis approaches

- Monte Carlo studies (Vahagn Gharibyan): well advanced, will be ready for the summer conferences. Independent calibration of the TPOL.  
Expect systematic uncertainties of order 3%
- Offline analysis with/without Silicon detector (Osamu Ota, Stefan Schmitt): first results look encouraging, but many things are not yet under control → large systematic uncertainties 10%, but results are compatible to Monte Carlo studies
- Dedicated Silicon analysis (Catherine Fry): online-monitoring of beam parameters under development. Hope to have per-minute measurement of beam ellipsis by the end of this year.

# TPOL calibration

Accuracy limited by old risetime calibration and MC extrapolation



Corrected TPOL and LPOL in agreement. Short writeup by this week.

Provide calibrated online measurements after shutdown.

## The LPOL cavity

- Install electronics in radiation-safe locations this summer. Use more radiation-hard electronics where possible.
- Commission polarisation measurement this winter.
- New calorimeter early next year.

## Conclusions and plans

- Polarimeters in 2004: expect systematic error of order  $2 - 3\%$
- Polarimeters after shutdown: expect to have LPOL cavity early next year, continue to operate existing polarimeters